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ONR Chair in Arctic Marine Science

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LONG-TERM GOAL

A research Chair in Arctic Marine Science was established in 1976 by the Chief of Naval Research to increase the awareness of naval operational concerns among national and international polar scientists across a broad spectrum of disciplines. The Chair has been continuously occupied for 22 years by visiting scientists in residence at NPS for one year each.

OBJECTIVES

To foster oceanographic research in the Arctic, acquaint naval officer students and other students with Arctic problems, reduce results of pure research to operational usage and publicize Navy interest in the Arctic region.

APPROACH

Annually the PI conducts a national/international search for candidates for the Chair. Solicitations are made by letter to potential candidates, to institutions having a polar interest and by advertisement in EOS. Candidates are selected based on their reputation, scholarly contributions to polar science and their science specialty to ensure broad representation from the observational and modeling communities. Typical candidates are those with specialties in remote sensing, ice physics, underwater acoustics, chemical oceanography, climate dynamics as well as the more traditional physical oceanographer or atmospheric scientist.

WORK COMPLETED

Chair recruitment proceeded as described above. Dr Martin O. Jeffries of the Geophysical Institute of the University of Alaska was selected as the incumbent for FY99.

RESULTS

Results specific to ONR-supported work carried out by Dr. Jeffries are reported in his summary. While at NPS Dr. Jeffries lead a multi-disciplined two-month expedition to the Terra Nova Bay Polynya where he conducted sea ice thickness and heat/salt flux measurements. He organized and hosted a meeting of the Science Steering Committee of ASPECT, a program under the auspices of SCAR, on 4-5 March 1999. He also organized a future (June 2000) international symposium on Sea

Ice and Its Interactions with the Ocean, Atmosphere and Biosphere. Dr. Jeffries worked on manuscripts dealing with Antarctic sea ice thickness and energy fluxes in pack ice and coastal polynyas. He provided four seminars at NPS and presented papers at several conferences.

IMPACT/APPLICATIONS

By spending a year at NPS, Dr. Jeffries has become more aware of Navy needs and operational requirements, factors that will carry over in future years. Specifically, his measurements of ice thickness and heat/salt flux in Terra Nova Bay Polynya should pave the way for new parameterizations of ice growth/melt in leads and polynyas.

TRANSITIONS

None at the moment but one can anticipate improvements to occur in the way PIPS models ice growth in polynyas.

RELATED PROJECTS

None

PUBLICATIONS

Those produced by Dr. Jeffries are reported separately.